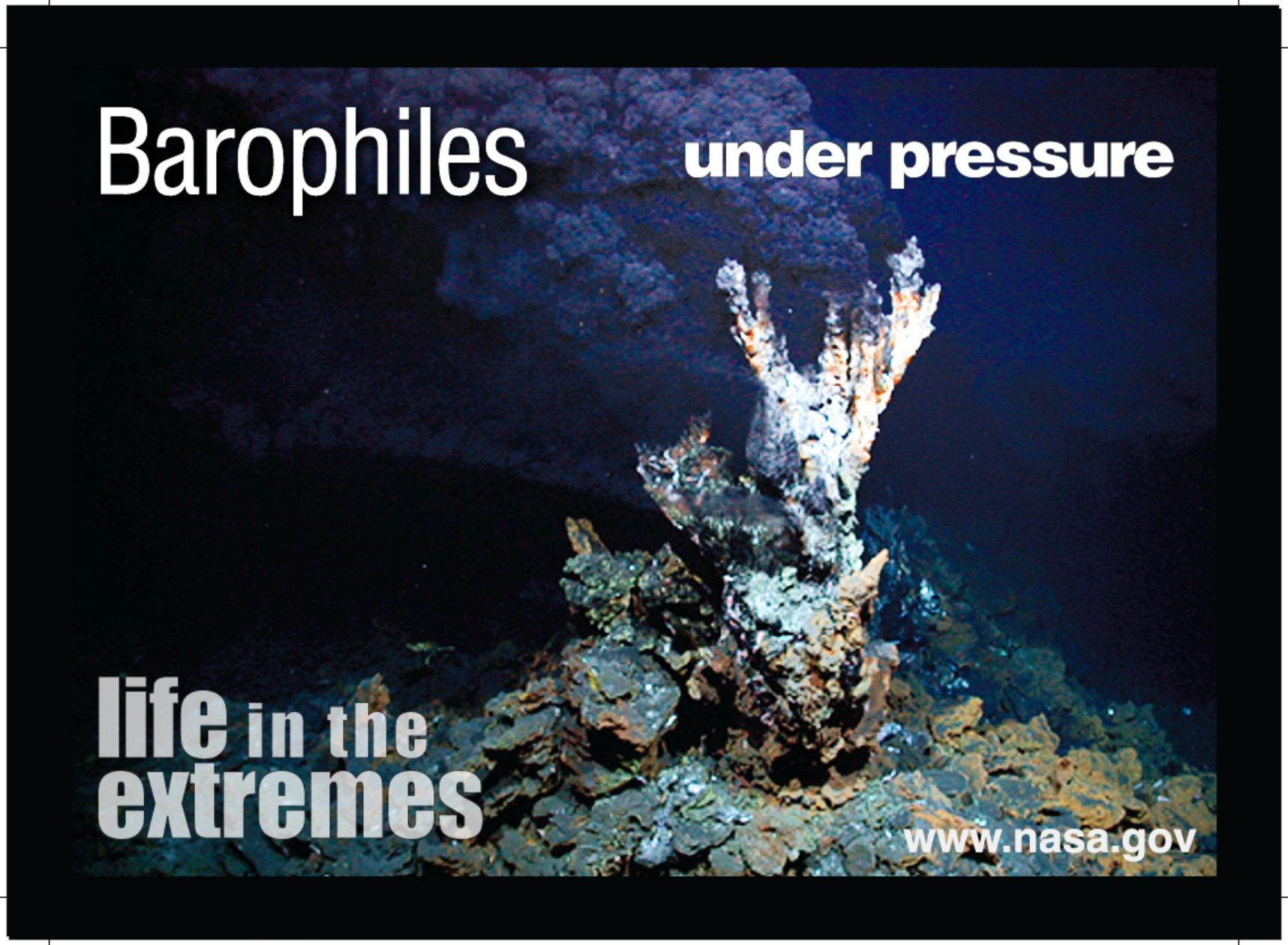
Barophiles
under pressure
life in the extremes
www.nasa.gov

National Aeronautics and
Space Administration

Barophiles can live in highly pressurized places such as the bottom of the ocean floor near hot vents like those seen on the front of this card.

EXTREME ABILITY Whereas most living creatures cannot survive the extreme forces that exist below the Earth's surface and on the sea floor, these microbes thrive under high pressure. They evolved a waxy cell layer which protects against crushing pressures and frigid temperatures.

EXTREME ENVIRONMENTS These extremophiles can be found almost everywhere on Earth, but most barophiles are found on the ocean floor where pressures are 400 times greater than on Earth's surface.

EXTREME EXAMPLES The barophile *Halomonas salaria* requires a pressure 1000 times grater than Earth's surface atmosphere just to stay alive!

Photo Credit: Black smoker at the bottom of the sea floor - MARUM, Bremen University, Germany (front); Barophile - Dr. Chiaki Kato, Japan Agency for Marine-Earth Science and Technology (back). For more information visit http://astrobiology.nasa.gov/